WALES AUDIT OFFICE
SWYDDFA ARCHWILIO CYMRU

Archwilydd Cyffredinol Cymru
Auditor General for Wales

Clinical coding follow-up review– Abertawe Bro Morgannwg University Health Board

Audit year: 2018

Date issued: April 2019

Document reference: 1182A2019-20

This document has been prepared as part of work performed in accordance with statutory functions.

In the event of receiving a request for information to which this document may be relevant, attention is drawn to the Code of Practice issued under section 45 of the Freedom of Information Act 2000. The section 45 code sets out the practice in the handling of requests that is expected of public authorities, including consultation with relevant third parties. In relation to this document, the Auditor General for Wales and the Wales Audit Office are relevant third parties. Any enquiries regarding disclosure or re-use of this document should be sent to the Wales Audit Office at info.officer@audit.wales.

The person who delivered the work was Philip Jones

Contents

The Health Board has invested in its clinical coding service, and the quality of its coded data is generally good. While the use of coding data as business intelligence remains underdeveloped there has been reasonable progress in addressing previous audit recommendations

Summary Report

Introduction

1 Clinical coding involves the translation of written clinical information (such as a patient's diagnosis and treatment) into a code format. A clinical coder will analyse information about an episode of patient care and assign internationally recognised standardised codes[1].

2 Good quality clinically coded data plays a fundamental role in the management of hospitals and services. Coded data underpins much of the day to day management information used within the NHS and is used to support healthcare planning, resource allocation, cost analysis, assessments of treatment effectiveness and can be an invaluable starting point for many clinical audits.

3 Coding departments within Welsh NHS bodies are required to satisfy standards set by the Welsh Government on completeness and accuracy of coded data. Performance against these standards form part of NHS bodies' annual data quality and information governance reporting.

4 During 2014-15 the Auditor General reviewed the clinical coding arrangements in all relevant NHS bodies in Wales. That work pointed to several areas for improvement such as the accuracy of coding, the quality of medical records and engagement between coders, clinicians and medical records staff.

5 We also found that NHS bodies routinely saw clinical coding as a back-office role, often with little recognition of the specialist staff knowledge and understanding needed. In addition. not all health bodies understood the importance of clinical coding to their day to day business.

6 In October 2014 we reported our findings for Abertawe Bro Moragnnwg University Health Board (the Health Board) and concluded that 'the Health Board recognised the importance of clinical coding and some of the associated processes were robust, but more needed to be done to address the wider factors affecting accuracy and timeliness'. More specifically, we found that:

- while the importance of clinical coding was recognised to some extent, more needed to be done to raise its profile and to focus on wider factors affecting its accuracy;
- some aspects of the clinical coding process were robust but clinical engagement was lacking, and the quality of medical records varied considerably; and
- clinical coded data was used appropriately and was generally of a good standard, although some coding was inaccurate and timeliness had deteriorated, the implications of which needed to be highlighted to the Board.

[1] For diagnoses, the International Classification of Diseases 10th edition (ICD-10), and for treatment, the OPCS Classification of Interventions and Procedures version 4 (OPCS)

7 We made several recommendations, which focused on the need to:

- improve the management of medical records;
- strengthen clinical coding resources;
- further build Board engagement and resources; and
- strengthen engagement with medical staff.

8 As part of the Auditor General's 2018 Audit Plan for the Health Board, we have examined the progress made in addressing the recommendations set out in the 2014 Review of Clinical Coding and any resulting improvement in performance.

9 In undertaking this work, we have:

- reviewed documentation, including reports to the board and committees;
- asked the Health Board to self-assess its progress so far;
- analysed clinical coding data sent to Welsh Government;
- sought board member views[2] on their understanding of clinical coding; and
- interviewed staff to discuss progress, current issues and future challenges.

10 We summarise our findings in the following section. Appendix 1 provides specific commentary on progress against each of our previous recommendations.

Our findings

11 We conclude that the Health Board has invested in its clinical coding service, and the quality of its coded data is generally good. While the use of coding data as business intelligence remains underdeveloped there has been reasonable progress in addressing previous audit recommendations.

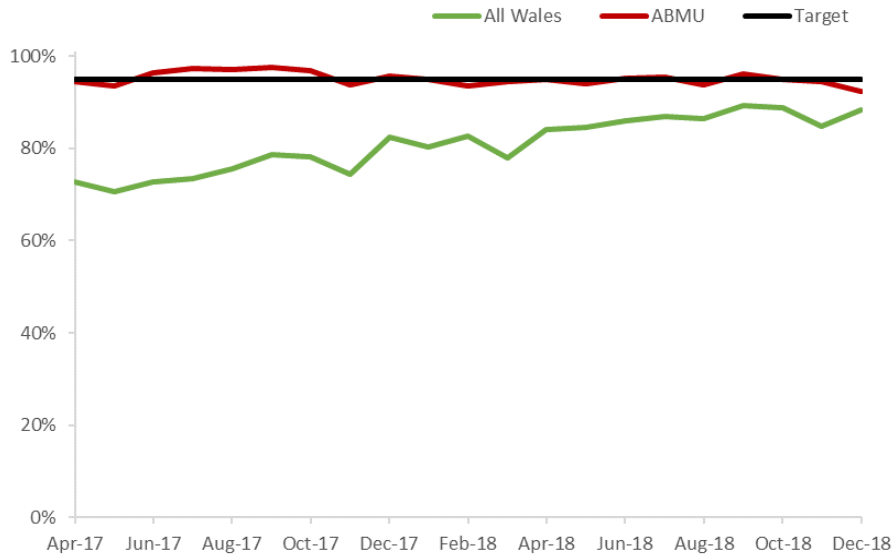
Clinical coding performance is generally good, albeit that accuracy has deteriorated slightly

12 The Welsh Government has two coding related Tier 1 targets which NHS bodies are required to meet. These relate to completeness and accuracy.

13 Each year, NHS bodies send data to the Welsh Government showing their performance against the Tier 1 target for **completeness**. The target is that 95 per cent of hospital episodes should have been coded within one month of the episode end date. NHS bodies need to meet this target monthly rather than at the end of each financial year which was previously the case. Based on this data, exhibit 1 shows that the Health Board's performance has remained very close to the completeness target. It has also been consistently above the average for Wales.

[2] A number of questions relating to clinical coding were included in the board member survey which formed part of our 2018 Structured Assessment work. A total of 20 responses out of a possible 30 responses were received.

Exhibit 1: Percentage of all episodes coded within one month of the end date.

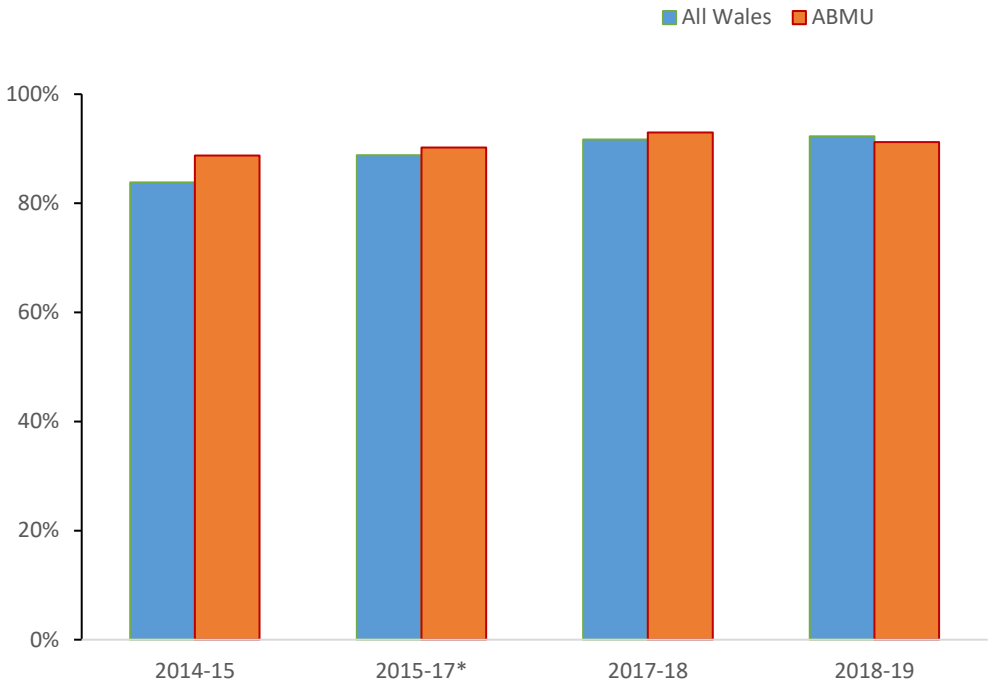


Source: WAO analysis of data sent to Welsh Government

14 As part of our fieldwork, we requested the backlog position as at March 2018. The Health Board reported a small backlog of 1.08% (2261) of the FCEs. Over the last three years the backlog fell and then rose again slightly.

15 Each year, the NHS Wales Informatics Service (NWIS) Standards Team check the **accuracy** of clinical coding. They do this by reviewing a sample of coded episodes and checking the information against evidence within the patients' medical record to assess accuracy. NHS bodies are expected to show an annual improvement in their accuracy. Based on this review, exhibit 2 shows that Health Board's accuracy has improved (88.7% accuracy in 2014-15 compared to 91.21% in 2018-19) over time although there has been a slight deterioration in 2018-19.

Exhibit 2: Percentage of episodes coded accurately



Source: WAO analysis of data sent to Welsh Government
* Note that due to capacity within the NWIS clinical coding team, a single accuracy review was undertaken during the period 2015-16 and 2016-17.

The importance of clinical coding has been recognised through new investment, although the use of coded data for business intelligence is underdeveloped

16 Previously we found that not all NHS bodies understood the wider importance of clinical coding to their business and they were missing opportunities to use this information more extensively. For example, to plan and monitor services, where coding can be used to:

- assess volumes of patients following particular clinical pathways; and
- provide comparative activity data to evaluate productivity, quality and performance.

17 The profile of clinical coding at the Health Board has been significantly higher in the period following our previous review. As a result, it has been successfully prioritised for improvement. The previous medical director was particularly

instrumental in highlighting the challenges for clinical coding. Additional resources were made available from 2016 to address coding staffing issues.

18 While awareness of issues associated with clinical coding is much higher, the use of coded data for business intelligence remains underdeveloped. However, there is clarity about the nature and extent of investment needed for digital solutions for clinical coding.

19 The Health Board has secured investment for the modernisation of case note tracking with Radio-Frequency Identification (RFID). The project objective will be to improve the clinical and logistical problems of a paper-based health record whilst also modernising and improving the services provided by the Health Records Department. The solution will provide RFID tagging of acute records and Location Based Filing using barcode scanning and identification of a records location via fixed sensors. This will enable records to be easily tracked, located and made available when required by coding staff as well as clinicians.

20 The Health Board is at the very early stages of adopting value-based healthcare. A paper submitted to the Welsh Government to develop a joint infrastructure with Hywel Dda University Health Board and Swansea University has been agreed and will be funded for two-years. The Health Board recognises that it currently lacks both outcome and cost data, the latter being linked to clinical coding. This information will be needed to take value-based healthcare forward.

The Health Board has made reasonable progress in addressing previous audit recommendations

21 Exhibit 3 summarises the status of our 2014 recommendations.

Exhibit 3: Progress status of our 2014 recommendations

Total number of recommendations	Implemented	In progress	Overdue	Superseded
13	5	6	2	-

Source: Wales Audit Office

22 Our follow-up work has found that the Health Board has made reasonable progress against our 2014 recommendations, although we have identified a number that are overdue.

23 The interdependency of clinical coding teams and medical records staff has been recognised and reflected in a new organisational structure and through revised practices. The standard and availability of case notes has improved and there is ongoing work to ensure that recognised records management standards are maintained at ward level. Nonetheless, the use of temporary files continues to be problematic.

24 There has been significant investment in clinical coding to permanently address earlier short falls in coding performance. The work has been driven by the implementation of a detailed and robust improvement plan. The first part of the investment addressed issues in the medium to long term and was based on a recurrent annual investment of £170,000 to increase numbers of staff. The second part was based on non recurrent funding of £255,000 to clear the backlog in 2016-17 through the use of agency coding staff.

25 There has been some training for Board members to raise their awareness of the importance of clinical coding. The Board has previously received the findings of the NWIS clinical coding accuracy report. In addition, coding completeness updates are provided monthly to the Health and Safety Committee and to the Executive Board, and routinely to the Quality and Safety Committee. The Senior Information Risk Owner provides an annual report which goes to the Board and includes clinical coding issues.

26 Information on clinical coding is provided for junior medical staff induction. The Health Board also provides coding awareness documents which can be given to medical staff by coding managers. The Chief Medical Information Officer would like to see a fit-for-purpose clinical information governance structure to help ensure improved coding standards amongst medical staff. There is recognition that not enough clinicians have taken part in the Clinical Information Reference Group and that it needs to be strengthened.

Recommendations still outstanding

27 In undertaking this work we have made no additional recommendations. The Health Board however needs to continue to make progress in addressing our previous recommendations. The outstanding recommendations are set out in Exhibit 4.

Exhibit 4: Recommendations still outstanding or overdue

2014 recommendations not yet complete
Management of Medical Records R1 Improve the management of medical records to ensure that the quality of, and access to, medical records effectively supports the clinical coding process. This should include: b) removing the use of temporary records, including poly-pockets, and ensure files are merged into the master patient record. c) reinforcing the Royal College of Physician (RCP) standards across the Health Board and the importance of good-quality records. e) Improving compliance with the medical records tracker tool within the Patient Administration System (PAS)

2014 recommendations not yet complete
Clinical Coding Resources R2 Further strengthen the management of the clinical coding teams to ensure that good-quality clinical coding data is produced. This should include: b) examining with staff how quarterly joint clinical coding team meetings can be further developed to ensure that they are regarded as being of value by staff.
Board Engagement R3 Build on the good engagement that already exists with the Board to ensure that the implications of clinical coding on performance management, and the wider management processes in the NHS, are fully understood. This should include: a) providing training for Board members to raise their awareness of clinical coding and the extent to which it affects the quality of key performance information, other than mortality data.
Engagement with medical staff R4 Strengthen engagement with medical staff to ensure that the positive role that doctors have within the clinical coding process is recognised. This should include: a) embedding a consistent approach to clinical coding training for medical staff across the Health Board. b) reinforcing the importance of completing timely discharge summaries. c) improving clinical engagement with the validation of clinical coded data.

Source: Wales Audit Office

Appendix 1

Health Board progress against our 2014 recommendations

Exhibit 5: Assessment of progress

Recommendation	Target date for implementation	Status	Summary of progress
Management of medical records R1 Improve the management of medical records to ensure that the quality of, and access to, medical records effectively supports the clinical coding process. This should include:			
a) putting steps in place to ensure that medical records are released to clinical coding teams as soon as possible after discharge at Morriston and Singleton Hospitals.	January 2015	Implemented	The availability of case notes for coding has improved considerably. The Health Board identified a number of issues relating to the management of the case notes which impacted on the coding service and the safety of patient care. In order to address these interdependencies the departments were amalgamated in 2016/17. They are each part of the same management structure within the Informatics Directorate, which is led by the Head of Digital Records and Information Assurance. Since 2014 there has been robust escalation of issues relating to case note availability and missing information through the Information Governance Board (IGB). A business case to modernise the health records library and make the paper health record electronic was submitted to Welsh Government in December 2016, and subsequently approved. This will, over time, enable the transfer of existing paper medical records into an electronic format, which can then be viewed at the point of delivery of clinical care. Clinicians will be able to access patient history in real time, improving the overall patient experience, and clinical safety. It will also reduce the cost, risk and inconvenience of

Recommendation	Target date for implementation	Status	Summary of progress
			requesting and transporting paper medical records across multiple sites. The proposal will also help change the way the Health Records service is run. It will modernise provision through the introduction of RFID tagging of paper case notes. The Health Board sees the eventual solution to the inherent problems with paper clinical records through availability of a full electronic clinical record for patients. Its Informatics Strategy Outline (3 Year Plan) sets out the projects required to achieve paper-lite working in clinical areas. The Health Board projects that successful implementation of this modernisation project will lead to significant financial, productivity and qualitative benefits. It would potentially deliver a step change in the capture of clinical information and health records practices which in turn is regarded as a vital first step towards a digitally transformed organisation.
b) removing the use of temporary records, including poly-pockets, and ensure files are merged into the master patient record.	Ongoing	In progress	Coding staff said that despite significant improvements in the approach to health records standards, they still receive temporary files and polypockets.
c) reinforcing the Royal College of Physician (RCP) standards across the Health Board and the importance of good-quality records.	June 2014	Overdue	Some audit work based around the RCP standards has taken place in conjunction with Swansea University, but only in relation to the specialty of medicine at Morriston Hospital. It is not clear whether the standards are being reinforced elsewhere in the Health Board.
d) providing training for ward clerks and other staff in relation to their responsibilities for medical records.	September 2014	Implemented	The Health Records Senior Management Team has established close working relationships with Service Delivery Representatives and Quality and Safety Managers. The purpose is to address and eradicate poor and unsafe ward administrative processes in respect of record management. The health records team have used existing resources to establish a robust audit and improvement programme for health records. It addresses risk and seeks to eradicate poor records management practices. Bi-monthly progress reports are presented to the Assurance & Learning Group. These summarise the improvements made to date,

Recommendation	Target date for implementation	Status	Summary of progress
			highlight outstanding actions across the Service Delivery Units, and detail the overall progress made in respect of records management practices. Feedback is also provided on progress and the recommendations that were received by the Health Board following the Information Commissioner's Office (ICO) Audit conducted in September 2016. The clinical coding service improvement lead is working proactively with wards to ask staff what coding staff can do to help them.
e) improving compliance with the medical records tracker tool within the Patient Administration Systems (PAS).	January 2015	In progress	Coding staff said that use of the medical records tracker tool within the PAS remains inconsistent.
Clinical coding resources R2 Further strengthen the management of the clinical coding teams to ensure that good-quality clinical coding data is produced. This should include:			
a) exploring and addressing the reasons for delays in coding episodes at Morriston and Singleton Hospitals once medical records are received by the respective teams.	October 2014	Implemented	In 2016, the Health Board made a significant investment into the Clinical Coding department in order to address the significant performance short fall in clinical coding at that time. The investment was comprised of two parts. The first addressed issues in the medium to long term and was based on a recurrent annual investment of £170,000 to increase staff numbers of staff. The aim was to achieve required productivity levels once staff were competent and trained. Additional coding staff were recruited and a review of the department was undertaken. The second part was based on non recurrent funding of £255,000 to clear the backlog in 2016-17 through the use of agency coding staff. The above work was driven by the implementation of a detailed and robust improvement plan. Plans were put in place to eliminate the backlog by June 2017 and weekly processes to monitor and report successful delivery were established. The improvement plan was sustained during 2017-18, and the Clinical Coding Department continued to review ways of working, structures and processes to maximise the benefits of the increased funding received in 2016. The period has been a transitional phase, because the funding resulted in the recruitment of additional staff

Recommendation	Target date for implementation	Status	Summary of progress
			which required training and the development before the department was able to maximise the benefit of the additional resources. During 2018 there has been more work to improve the management support allocated to the clinical coding department. In addition to the two existing qualified band 6 roles, a band 7 post has been identified and advertised.
b) examining with staff how quarterly joint clinical coding team meetings can be further developed to ensure that they are regarded as being of value by staff.	January 2015	In progress	Coding staff do not meet on a quarterly basis, and cross-site meetings are rare. Nonetheless, the Head of Digital Records and Information Assurance made a very positive gesture of bringing all of the coding teams together for the purpose of attending a focus group as part of this review. On the day a number of staff members said how much they valued the opportunity.
c) reinforcing the role that Band 4 staff should play in mentoring and checking the work of others.	April 2015	Implemented	As mentioned above, the Health Board has invested a significant amount in increasing coding staff resources and in developing its processes. This has provided additional capacity for mentoring and checking of work within the staff structure, and not only at Band 4 level.
Board engagement R3 Build on the good engagement that already exists with the Board to ensure that the implications of clinical coding on performance management, and the wider management processes in the NHS, are fully understood. This should include:			
a) providing training for Board members to raise their awareness of clinical coding and the extent to which it affects the quality of key performance information, other than mortality data.	April 2015	In progress	A Health Board development information session was conducted by the Audit Lead in 2015 on Clinical Coding to raise the profile and to describe the context and rational for additional investment. This presentation was a factor in securing investment. We did not see evidence that there has been any further action in this area, either for existing or new Board members.
b) improving information to the Board on the accuracy of clinical coding.	May 2015	Implemented	The Board periodically receives information on the accuracy of clinical coding. In addition, coding completeness updates are provided monthly to Health and Safety Committee and to the Executive Board, and routinely to the Quality and Safety Committee. The Senior Information Risk Owner provides an annual report which goes to the Board and includes clinical coding issues.

Recommendation	Target date for implementation	Status	Summary of progress
Engagement with medical staff R4 Strengthen engagement with medical staff to ensure that the positive role that doctors have within the clinical coding process is recognised. This should include:			
a) embedding a consistent approach to clinical coding training for medical staff across the Health Board.	February 2015	In progress	Information on clinical coding is provided for junior medical staff induction. The Health Board also provides coding awareness documents which can be given to medical staff by coding managers. The Chief Medical Information Officer would like to see a fit-for-purpose clinical information governance structure. Professional guidelines suggest that it should include four to six people distributed across an organisation the size of the Health Board. There is recognition that not enough clinicians have taken part in the Clinical Information Reference Group and that it needs to be strengthened. Prospectively, the new medical director will have three deputy medical directors, whereas previously there was only one. This could create ongoing capacity to focus on clinical information and coding issues, and to ensure that a consistent approach to clinical coding training for medical staff is introduced.
b) reinforcing the importance of completing timely discharge summaries.	December 2014	Overdue	Clinical coding staff said that the quality and timeliness of discharge summaries is still variable.
c) improving clinical engagement with the validation of clinical coded data.	September 2014	In progress	Clinical coders and coding managers are engaging with clinicians and specialist nurses regarding the validation of the coding data, although it is not clear how widespread this enagement is.

Source: Wales Audit Office

Appendix 2

Results of the board member survey

Responses were received from 14 of the board members in the Health Board, and are summarised below.

Exhibit 6: Rate of satisfaction with aspects of coding

	How satisfied are you with the information you receive on the robustness of clinical coding arrangements in your organisation?		How satisfied are you that your organisation is doing enough to make sure that clinical coding arrangements are robust?	
	This Health Board	**All Wales**	**This Health Board**	**All Wales**
Completely satisfied	1	6	-	5
Satisfied	5	34	7	40
Neither satisfied nor dissatisfied	7	46	7	46
Dissatisfied	1	10	-	4
Completely dissatisfied	-	-	-	1
Total	14	96	14	96

Exhibit 7: Rate of awareness of factors affecting the robustness of clinical coding

	How aware are you of the factors which can affect the robustness of clinical coding arrangements in your organisation?	
	This Health Board	**All Wales**
Full awareness	3	26
Some awareness	6	50
Limited awareness	5	17
No awareness	-	3
Total	14	96

Exhibit 8: Level of concern and helpfulness of training

	Are you concerned that your organisation too readily attributes under performance against key indicators to problems with clinical coding?		Would you find it helpful to have more information on clinical coding and the extent to which it affects the quality of key performance information?	
	This Health Board	All Wales	This Health Board	All Wales
Yes	2	8	13	77
No	12	84	1	19
Total	14	92	14	96

Exhibit 9: Additional comments provided by respondents from the Health Board

- Our clinical coding team are performing well now that they have the correct resource allocated to them. They have done what they said they would do if given the tools they needed. This means we can be much more confident, through audit, in the timeliness and quality of coding. However, we do not code the majority of secondary care activity (outpatients) so have no idea what is going on in that "part of the business", nor do we see much from primary care. Coding is all retrospective and depends on what is written in the paper record. We must move to a position where it is captured as a product of delivering care and as close to real-time as possible. The lack of a clinical information system to provide coded activity data for the Emergency Department is a huge area of ignorance for us.
- I have not heard clinical coding mentioned at a committee or Board level in the [period] I have been involved.
- More information is always useful. Clinical coding is difficult and there seems to be some issue with both inputting data (which has greatly improved) and definitions/interpretations by the coders. There is always a need for those making clinical notes to be very clear about what they are recording so that the coders can confirm within the data system.

Wales Audit Office
24 Cathedral Road
Cardiff CF11 9LJ

Tel: 029 2032 0500
Fax: 029 2032 0600
Textphone : 029 2032 0660

E-mail: info@audit.wales
Website: www.audit.wales

Swyddfa Archwilio Cymru
24 Heol y Gadeirlan
Caerdydd CF11 9LJ

Ffôn: 029 2032 0500
Ffacs: 029 2032 0600
Ffôn testun: 029 2032 0660

E-bost: post@archwilio.cymru
Gwefan: www.archwilio.cymru